

**Claims**

1 1. A burner assembly, said burner assembly provided for connection to a series of  
2 spaced inlets to provide heat and/or flame thereto, and wherein the burner assembly is  
3 provided with a plurality of ports or groups of ports therein through which a pre-mixed  
4 gas/air mixture leaves said burner, said ports provided at spaced locations, so as to allow the  
5 inlets to be served by the common burner assembly.

1 2. A burner assembly according to claim 1 wherein the inlets are the inlets of the HX  
2 tubes of a heat exchanger.

1 3. A burner assembly according to claim 2 wherein the HX tubes are those of a multi  
2 flue heat exchanger.

1 4. A burner assembly according to claim 1 wherein the burner includes a plate, said  
2 plate having the ports formed therein.

1 5. A burner assembly according to claim 4 wherein the plate includes one port for each  
2 HX tube.

1 6 A burner assembly according to claim 5 wherein said ports are spaced on the plate to  
2 match the spacing of the HX tubes.

1 7. A burner assembly according to claim 4 wherein the plate includes a series of ports

2 forming a group, said plate having a number of spaced groups.

1 8 A burner assembly according to claim 7 wherein the groups of ports are spaced to match  
2 the spacing of the HX tubes.

1 9. A burner assembly according to claim 1 wherein the number of ports or groups of  
2 ports differs to the number of HX inlets.

1 10 A burner assembly according to claim 9 wherein the HX inlets are supplied from a  
2 number of ports or groups of ports greater than the number of inlets.

1 11 A burner assembly according to claim 9 wherein the HX inlets are supplied from a  
2 number of ports or groups of ports less than the number of inlets.

1 12 A burner assembly according to claim 4 wherein the plate provided with the ports is  
2 mounted and located within a housing with the housing formed, and the plate positioned,  
3 such that a combustion chamber is defined on the side of the plate facing the HX tubes.

1 13. A burner assembly according to claim 12 wherein the combustion chamber is  
2 common for each of the ports, and hence each of the HX tubes supplied via the ports.

1 14. A burner assembly according to claim 12 wherein the burner assembly is provided  
2 with a single injector to supply gas into a cavity.

1 15. A burner assembly according to claim 1 wherein a diffuser or distributor is provided  
2 in the assembly to improve the gas/air mixture.

1 16. A burner assembly according to claim 15 wherein the diffuser is a perforated  
2 diffuser;

1 17. A burner assembly according to claim 1 wherein the plurality of ports or groups of  
2 ports are formed in a plate which can be mounted on the body, said plate interchangeable  
3 with other plates with differing port formations thereon to enable a common housing to be  
4 utilized with the plate and the configuration of the ports on the plate being selected to match  
5 the HX tubes configuration with which the burner assembly is to be provided.

1 18 A burner assembly according to claim 1 wherein the ports are in the form of circular  
2 apertures.

1 19 A burner assembly according to claim 1 wherein the ports are in the form of slots.

1 20 A burner assembly according to claim 1 wherein the gas/air mixture is fully premixed.

1 21 A burner assembly according to claim 1 wherein the gas/air mixture is partially premixed.

1 22. A burner assembly, said burner assembly comprising a housing and body, said body  
2 provided with a gas supply leading into a cavity defined within the body, said cavity acting

3 as a mixing chamber in which the gas and air mixes and said mixture leaving the cavity via  
4 a number of ports, combusts and in turn leaves the burner assembly to enter a series of HX  
5 tubes which are provided in a predefined configuration, and wherein the ports are provided  
6 in a plate which defines one of the walls of the cavity, said ports provided in a spaced  
7 configuration on the plate.

1 23 A burner assembly according to claim 22 wherein the configuration of the ports or groups  
2 of ports matches the configuration of the HX tube inlets such that at least one of the ports  
3 is positioned adjacent each of the HX tube inlets.

1 24. A burner assembly according to claim 22 wherein the number of ports or groups of  
2 ports matches the number of inlets.

1 25 A heat exchanger incorporating a burner assembly in accordance with claim 1.

1 26 A heating means incorporating a burner assembly in accordance with claim 1.